# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>TITLE</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iv</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>vi</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xiii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xiv</td>
</tr>
<tr>
<td>ABBREVIATIONS</td>
<td>xv</td>
</tr>
<tr>
<td>TQM CRITICAL SUCCESS FACTORS</td>
<td>xvi</td>
</tr>
</tbody>
</table>

## CHAPTER 1  INTRODUCTION

1.1 The Role of quality  
1.2 Definitions of quality  
1.3 Conclusions from quality gurus  
1.4 Review of quality award models  
1.5 Definitions of TQM  
1.6 Sustainable development of TQM  
1.7 Research issues  
1.8 Research objectives  
1.9 An overview of the thesis  

## CHAPTER 2  LITERATURE REVIEW

2.1 Review of the literature on the critical success factors and measurement of TQM  
2.1.1 The first instrument for measuring TQM critical success factors  
2.1.2 Quality instruments based on Deming’s principles  
2.1.3 Quality instruments that established relationship between TQM critical success factors and performance outcomes  
2.1.4 Cross country quality instruments  
2.1.5 Quality instruments based on MBNQA award criteria  
2.2 The present state of TQM  
2.3 Full TQM (or) partial TQM?
2.4 Obstacles to achieving TQM
2.4.1 Lack of top management support
2.4.2 Lack of training
2.4.3 Lack of employee empowerment
2.4.4 Lack of customer focus
2.4.5 Quality certification issues
2.4.6 Quality measurement issues
2.5 Review of literature on sustainable development of TQM
2.6 The importance of TQM sustainability model
2.7 The review of TQM sustainability studies
2.8 Gaps in the literature and the motivating factors for the present research
2.9 An overview of the research project

CHAPTER 3 PARETO ANALYSIS OF CRITICAL SUCCESS FACTORS OF TQM
3.1 The importance of critical success factors
3.2 The congruence of TQM and six sigma
3.3 Objectives of the study
3.4 Scope of the study
3.5 Pareto analysis of critical success factors
3.6 Comparison with previous studies
3.7 Results and discussion

CHAPTER 4 A QUALITY FUNCTION DEPLOYMENT APPROACH TO INTERNAL BENCHMARKING OF CRITICAL SUCCESS FACTORS OF TOTAL QUALITY MANAGEMENT
4.1 Benchmarking of critical success factors of TQM
4.2 Quality function deployment
4.3 Methodology
4.4 Data collection, analysis
4.5 Findings of the study
4.6 Results and discussion
CHAPTER 5 WEB - BASED DEVELOPMENT OF QUALITY INSTRUMENT TO MEASURE THE LEVEL OF IMPLEMENTATION OF TOTAL QUALITY MANAGEMENT

5.1 Quality management in India 75
5.2 Empirical studies in India 75
5.3 TQM critical success factors 77
5.4 Explanation of critical success factors 77
  5.4.1 The role of top management and quality policy 77
  5.4.2 The role of quality department 78
  5.4.3 Training 79
  5.4.4 Product design 79
  5.4.5 Supplier quality management 80
  5.4.6 Process management 81
  5.4.7 Quality data & reporting 81
  5.4.8 Employee relations 82
  5.4.9 Customer focus 83
  5.4.10 Lean manufacturing 83
5.5 Instrument development process 84
5.6 Web-based quality instrument development 87
5.7 Pre-test 89
5.8 Software development 90
  5.8.1 Visual basic programming 90
  5.8.2 Explanation of the VB forms 91
    5.8.2.1 Form 1 – Instructions 91
    5.8.2.2 Form 2 – Respondent's information 91
    5.8.2.3 Form 3 – Survey questionnaire 92
    5.8.2.4 Scoring of the responses 93
5.9 Reverse coding of questions 95
5.10 Subjects and administration 95
5.11 Measurement evaluation 96
5.12 Reliability analysis 96
  5.12.1 Item analysis 99
  5.12.2 Validity 99
  5.12.3 Content validity 99
  5.12.4 Criterion validity 100
  5.12.5 Construct validity 101
5.13 Results and discussion 101
## CHAPTER 6 RELATIONSHIP BETWEEN CRITICAL SUCCESS FACTORS AND QUALITY, FIRM PERFORMANCES

6.1 The relationship between quality and performance: A revision of the literature 105
6.2 The research problem and its relevance 109
6.3 TQM critical success factors 109
6.4 Web-based TQM measurement process 110
6.5 Bivariate correlations among critical success factors of TQM and analysis 110
6.6 Results and discussion 112

## CHAPTER 7 SUSTAINABLE DEVELOPMENT OF TOTAL QUALITY MANAGEMENT

7.1 Sustainable development of TQM 114
7.2 Methodology 116
7.3 Assumptions for the TQMII methodology 121
7.4 Algorithm to determine TQMII 123
7.5 Notations 124
7.6 The TQMII algorithm 125
7.7 Data collection, analysis 127
7.8 Results and discussion 128

## CHAPTER 8 RESULTS AND CONCLUSIONS

8.1 Research contributions 133
8.2 Limitations of the present work 138
8.3 Scope for future work 138
Appendix 1 139
Appendix 2 156
Appendix 3 161
Appendix 4 165
Appendix 5 172
Appendix 6 176
References 183
List of publications based on this research work 204